

Nuclear Physics I: Nuclear Astrophysics

PHYS 8801

Alexander Heger¹

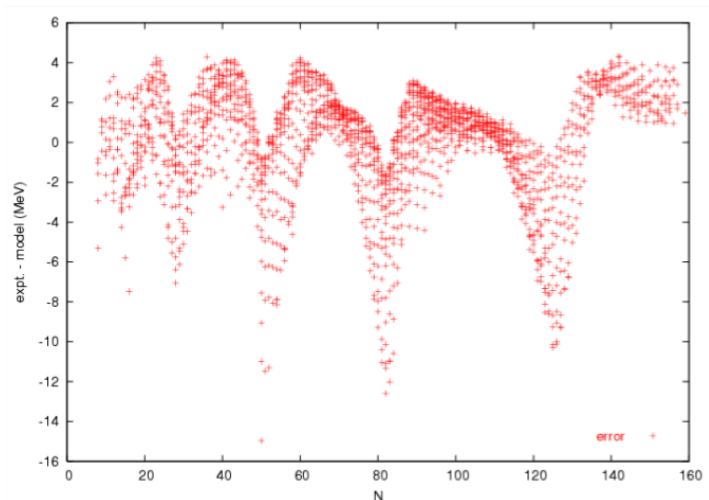
¹Minnesota Institute for Astrophysics
School of Physics and Astronomy
University of Minnesota

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Agenda

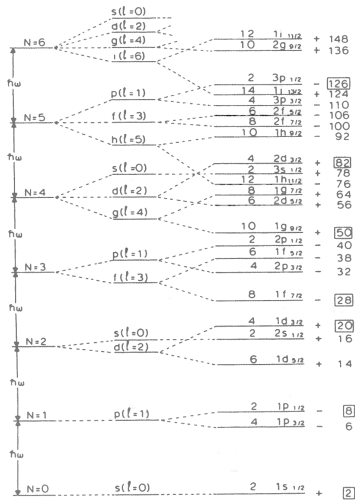
1 Nuclear Masses

Deviation from Weizsäcker formula



Deviation of Weizsäcker formula from experiment.

Shell Model



harmonic oscillator $l=N, N-2, \dots$ \vec{l}, s $N_j = 2j+1$ $n l_j$ $\sum_{j=0}^l (2j+1) = 2 \sum_{j=0}^l j + \sum_{j=0}^l 1 = 2 \frac{l(l+1)}{2} + (l+1) = l(l+1) + (l+1) = (l+1)(l+1) = (l+1)^2$

FRDM - Audi (2003) mass difference

